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ABSTRACT

Despite increased per pupil cost of programs, facilities, and certified personnel caused by low student enrollments, small rural high schools can offer broad and diverse curricula. This paper briefly describes 31 model programs used by small and rural high schools to maintain or expand curriculum offerings and lists advantages and disadvantages of 24 selected strategies. Programs described include cooperative sharing, use of community resources, correspondence study, special scheduling, audio teleconferencing, videotaping, interactive television, interactive video, satellite systems, and computer networks. Advantages and disadvantages are listed in four tables outlining: in-school options, community and postsecondary resources, cooperative sharing ventures, and technological advances. An appendix lists 35 names and addresses to contact for information about programs mentioned in the paper. (LFL)

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MAINTAINING AND/OR EXPANDING CURRICULUM OFFERINGS IN SMALL AND RURAL HIGH SCHOOLS

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MAINTAINING AND/OR EXPANDING CURRICULUM OFFERINGS IN SMALL AND RURAL HIGH SCHOOLS

The Small School Problem

Literature on the relationship between the size of school and extent of curricular offerings is almost unequivocal (Webb and Metha, 1983). Larger schools with greater numbers of students can and do offer more program breadth than their small school counterparts. Not only do larger schools tend to offer more courses in each subject area than do small schools, studies have found that they also tend to provide courses in a greater variety of subject areas (Osterndorf and Horn, 1976). Exceptions seem to be few and are restricted to isolated instances where an unusual amount of local wealth supports a low pupil enrollment.

The challenge of offering a broad and varied curriculum is one of the most frequent concerns raised by administrators of small/rural high schools in the United States (Barker and Muse, 1983; O'Neil and Beckner, 1982). The matter is a serious one. Of the 15,144 public senior high schools in the United States, 7329 or 48.4 percent enroll less that 500 students each (U.S. Bureau of the Census, 1983). Although is is true that larger high schools also face obstacles in planning and organizing their curricula, the problem is generally of greater magnitude in the small high school where lower enrollments increase per pupil cost of programs, facilities and certified personnel (Barker, 1985).

Purpose of this Report

Despite these obstacles, small schools can have broad and diverse curricula -- indeed, many do. The intent of this paper is to briefly describe some ongoing practices which have been implemented among our nation's small/rural high schools in order to maintain or expand present curriculum offerings. Most of these models are transferable to other areas.

The paper has been divided into two sections. Section One presents brief descriptions of model programs and includes in the Appendix names and addresses of individuals to contact for more specific information. Section Two is a compilation of four tables which list the potential advantages and disadvantages of selected strategies which may be employed to expand course offerings. Section Two includes some overlap from Section One, but makes no inferences to model programs. The purpose of the tables is to present the reader with a concise list of options, along with inherent advantages and disadvantages of each.

SECTION ONE -- MODEL PROGRAMS

This section has been sub-divided into two categories: (1) practices which are non-technological in nature, and (2) practices which require the use of technology. Names and addresses of

individuals to contact for detailed information about specific programs are listed in the Appendix.

Non-Technological Options

The options highlighted below include cooperative sharing strategies, the use of community resources, correspondence study courses, and special scheduling alternatives. In most cases, the implementation of these strategies is cost effective and within the budget parameters of most small/rural schools.

Cooperative Sharing

Corwith, Wesley, and LuVerne school districts in Iowa are in their sixth year of a "sharing program." The theme, "Sharing to Learn, Learning to Share" arose from community participation, board decisions, and contracts arranged between the three districts. Corwith and Wesley send their seventh, eight, and ninth grade students to LuVerne while students in grades 10 through 12, from each of the three districts, attend classes in Corwith. A comprehensive high school program has been maintained yet each school retains its identity. Students return to their "home" campus for participation in athletic programs (AASA, 1982).

Since 1981, 14 districts in Minnesota have entered into "pairing agreements." In each case, two districts have joined together and one typically offers courses in the lower grades while the other offers programs in the higher grades. Students are bussed to their respective school according to grade level. For example, one school may provide elementary programs and the other provide secondary programs. Enrollments at each school are increased, thereby allowing for more complete program offerings (Redfield, 1985).

Another example of cooperative sharing is the Southeastern Illinois Vocational System. Nine high schools, ranging in size from 75 to 500 students, located in the southeast part of the state have formed a consortium along with a regional vocation center, a community college, a prison, and selected businesses of the region. Since forming the consortium, every high school student in the nine school area has a choice of a minimum of 20 vocational programs. Before the regional system was organized, some students only had a choice of four (Rawlison, 1984).

Traveling teachers are yet another example of cooperative sharing. Four small high schools near Latimer, Iowa share a foreign language instructor who is certified to teach four years of German and Spanish. The teacher spends a half-day every other day in each school. On days when the teacher is not in the building, students listen to audio tapes and do practice exercises. According to one superintendent, the cost is about $4300 per year for each school. The schools have been able to double their foreign language offerings (Salmon and Turner, 1981).

The Maryland Mid-Shore Special Education Consortium is the result of efforts by the Maryland State Department of Education to

unite schools in four rural counties by means of an itinerant program that brings trained staff to each school on a regular basis. Special education students in each of the schools have been identified and appropriate services rendered as a result (White, 1984).

Mott School District #6 (300 students) located in Mott, North Dakota, cooperates with six other small districts in the creation of a Multi-district Vocational Mobile Program which has brought vocational education opportunities to students living in isolated rural settings. Mobile classrooms (travel trailers) move each semester to a different school and permit high school students to study welding, carpentry, nursing, or institutional food services. The programs are exploratory in nature and are offered only to juniors and seniors. Instructors travel with trailer units, bringing programs to students rather than the alternative of extensive busing of students to programs (Barker and Muse, 1984).

The most successful structure for cooperative sharing of resources among rural schools has been the educational service agency. Some 800 of these cooperatives formally function in 30 different states. Depending on the geographical location, instructional services are shared among several up to as many as 30 or 40 different districts.

Using Community Resources

Mildred High School (300 students) in Mildred, Texas, has entered into a contractual arrangement with Navarro Junior College that allows senior students to enroll in selected college level courses on the Navarro Junior College campus, nine miles distant from the high school. During the 1984-85 school year, over 20 seniors enrolled in 18 different courses at Navarro. A total of $10,000 was budgeted by the school for the program. The contractual arrangement reduced staffing needs at the high school by 2.5 positions, saving the district over $35,000 in personnel costs. Participating students receive dual credit -- high school credit and college credit -- for their completed work (May, 1984).

Faced with lack of resources to offer diverse vocational programs, administrators of three rural high schools (Salem, Steelville, and Potosi) in Southeastern Missouri joined together with local business persons to provide students with specific occupational training at the business sites. The schools contract with the businesses to provide students with internship experience. The training is competency based and focuses on predetermined student interests. Since 1979, over 240 students have successfully participated in the program (Hobbs, 1984).

Another vocational program which utilizes community resources is Arthur County High School (50 students) in Arthur, Nebraska. Local craftsmen in the area are given vocational certification so they can help teach in such areas as auto mechanics, metal work, oil painting, and pottery (Salmon and Turner, 1981).

Sacketts Harbor Central High School in New York State (525 students) offers an environmental safety course that is adapted to

the interests and activities available to students in the local area. Through lecture and field experiences, students are exposed to the following topics: hunting and fishing safety, big game hunting, trapping, snow mobile recreation, tractor handling, small boat handling, archery, duck hunting, duck identification and bonding, fire arm safety and black powder safety, and duck decoy carving. The course has received strong support from students and community members. It has also been recognized by the national Duck's Unlimited organization and the National Rifle Association (Barker and Muse, 1984).

The Roscoe Central School, also located in New York state, has developed a human resources library to supplement its curriculum. Mini-programs in such areas as fly fishing, facial make-up, and East Indian cooking are provided during and after the school day by senior citizens, community experts, and parents. Coordinated by the school librarian, the resource persons volunteer their expertise with interested students (Salmon and Turner, 1981).

Correspondence Study

Liberty High School (180 students) in Spangle, Washington, has expanded elective course offerings from less than 15 courses to over 100 through the use of supervised correspondence study. Selected high school students are allowed to enroll in one or two correspondence courses each semester, which are financed by the school. Students participating in correspondence study courses attend a "correspondence class" supervised by a member of the high school faculty who monitors student work, maintains records of students' progress, provides assistance or tutoring when able, and proctors exams sent from the correspondence school(s). Between 30 to 40 students participate in the program each year. Many students have developed interest in careers they would not otherwise have studied (Barker and Muse, 1984).

According to administrative personnel at Liberty High School, one of the bonuses of the program is that teachers learn how to manage individualized and independent learning. Also, correspondence courses, when properly supervised, are an excellent way for a small school to provide programs to meet the needs of all regular and special groups including the handicapped, disadvantaged, and gifted/talented (Salmon and Turner, 1981).

In the six state area served by the Southwest Educational Development Laboratory, high school correspondence study courses are offered by the University of Arkansas, Louisiana State University, Mississippi State University, Oklahoma State University, Texas Tech University, and the University of Texas. Quality of correspondence courses vary between and even within institutions. Some are extremely well written -- others are not. Administrators who are giving consideration to the use of correspondence study as a vehicle for curriculum expansion should request that the correspondence department send a copy of the respective course(s), without cost or obligation, for review before actually enrolling students. The use of approved correspondence courses is a feasible alternative to expand curricula in small school at a fraction of the cost of

advanced technologies or additional personnel. Tuition and materials costs for one-half unit of Carnegie credit ranges between $40 to $50 for most courses.

Special Scheduling

Many small high schools alternate the offering of selected courses. For example, in the Spur Independent School District, Spur, Texas, math and science are each taught on an alternate year basis. In Flaxville School Districts number three and seven, Flaxville, Montana, science and social studies alternate every other year. If schools are fortunate to obtain multi-certified teachers, they can offer still other courses on the "off year" (Salmon and Turner, 1981).

Another scheduling option is to offer interdisciplinary courses. In such a case, two or more discipline areas are combined into a single course. If a school is not able to offer a particular course, perhaps it could be delivered as part of an interdisciplinary offering. Although breadth of coverage is likely to be lost, students will still be exposed to major topics in the discipline. A related approach is that of "learning centers" proposed by Sederberg (1983). According to Sederberg, equating learning opportunities (courses) with classes offered by a high school automatically places small schools at a program disadvantage because they lack the critical mass of students needed for a comprehensive array of electives. His proposed learning center approach is a multi-grade, multi-course organizational alternative that uncouples the course = class equation by means of individualized and small group instruction. By using the learning center approach, a school with 180 students in grades 7-12 could offer the same or better program as a school of almost 400 students which follows the traditional classroom approach. Furthermore, the action would not require additional staffing.

Technological Options

A variety of information technologies are available to rural and isolated schools as mechanisms for instructional delivery. Models discussed herein include the use of audio teleconferencing, video taped lessons, interactive instructional television, satellite systems, interactive video, and computer networks.

Audio Teleconferencing

The correspondence study department at the University of Nebraska-Lincoln offers several advanced placement and dual credit correspondence study courses to rural high schools. The program differs from traditional correspondence study in that six to eight times during the semester in which students are enrolled in a course, they are linked at their school by a speaker phone with the at-a-distance instructor from the University. Two-way audio interaction results. The cost to individual schools is about $220 for the hook-up and speaker phone, plus the cost of long distance

telephone charges. The tuition cost for students enrolling for dual credit is $127 per semester hour of credit (Wall, 1984).

The University of Wyoming at Laramie operates a REDI-NET teleconferencing system. REDI-NET is a 24-port teleconferencing bridge which is supplemented with video tape and print components. Present use focuses on the offering of college level courses to distant sites. High schools which allow advanced placement students to participate in the program are charged $130 per student per one-half Carnegie unit. To use the system, the instructor "hooks up" to distance sites connected via telephone lines and verbally introduces a video lesson. The video component is then played locally at each site, after which the instructor returns to the audio network and conducts a seminar (Wall, 1984). Eastern Montana State College in Billings operates a similar system which provides courses for selected junior and senior high schools as well as inservice training for teachers (Educational Operations, Inc., 1982).

Videotaping

Divisions of Continuing Education at both the University of Missouri-Columbia and Colorado State University offer correspondence study courses which package instructional content in videotapes and distribute these to participating schools. Missouri's program is a Spanish language course which uses 30 one-half hour tapes of conversational Spanish acquired from Miami-Dade Community College. Tuition cost for students is approximately $40, plus books. In addition, schools using the materials pay $3000 for the tapes. At Colorado State, "live" university classes are videotaped and the tapes are sent to sites across the state. Professors also make periodic visits to distant sites in order in order to become personally acquainted with students. Students are able to access their professor(s) via an in-state Watts line to pose questions or discuss study concerns (Wall, 1984).

Interactive Television

In addition to audio teleconferencing, regular telephone lines can also be used to transmit visual signals.

Although South Oak Cliff High School is Dallas, Texas is not considered small, the school does make good use of teleconferencing technology which has application in small schools. Through the use of an electronic blackboard, a teacher is able to teach a course to students located at several sites. From one location the teacher can talk to students and write questions or diagrams on the board which are seen at the other locations on a regular TV monitor. "Chalk marks" on a pressure sensitive board are sent over telephone lines to television sets at distant sites. Interactive verbal communication is transmitted in all directions over a second set of phone lines. The cost of the electronic blackboard is about $12,000 (Levinson, 1984).

In the area around Warsaw, New York four small high schools also make use of the electronic blackboard. Advanced math, foreign

language, and other subjects are taught by an instructor at a host site and transmitted to the schools. A telephone line is all that is needed (CRESS NOTES, 1984/85).

Another use of existing telephone lines to transmit visual signals is slow scan TV. Although no rural high schools are known to use this technology, slow scan is used by Universities in Wisconsin, Utah, Alaska, Arizona, and other states to deliver college courses. Slow scan can probably be best compared to a 35 mm slide projector in that still-frame pictures are transmitted along with two-way audio communication. The cost to equip a host site and a receiving site with slow scan cameras and TV monitors can be as low as $7000 each. Users would also be expected to pay charges for long distant telephone use. Slow scan has potential as an affordable medium to provide learning opportunities otherwise not available to students in small or isolated schools.

Two-way, real-time, audio-visual instruction over low power TV originates from Eagle Bend High School (370 students) in Eagle Bend, Minnesota. The high school has its own television station and describes it as "probably the world's smallest televsion station" (Barker and Muse, 1984, p. 4). The network to three other schools is reported as the only one of its kind in the United States. Programming to participating schools includes foreign language, advanced math, elective arts, computer skills, and vocational education. The costs associated with the station, however, are very high. Equipment investment alone is estimated at one-half million dollars (Wall, 1984).

Simultaneous two-way video and audio communication is possible for four small schools in Northwest Illinois connected by a cable network. Seven courses were offered over the system during the 1984-85 school year. Each school is responsible for its share of expenses (teacher salaries and equipment) which was approximately $19,000 in 1984 (CRESS NOTES, 1984/85; Wall, 1984).

Interactive Video

Videotape technology has been around for several years. In order for video material to be interactive, the student must be able to (1) contact and speak with a subject matter expert(s) anytime while viewing the videotape, or (2) read printed material and respond to previously determined questions after watching segments of the video. The Winthrop Rockefeller Model Secondary Project administered by the University of Arkansas allows groups of students to study trigonometry, physics, and chemistry through an interactive video system. Students are provided printed material for reading and studying along with the videotape. A distant instructor can also be contacted by telephone to answer questions. The costs associated with producing specialized videotapes can be very expensive (Levinson, 1984).

The regional Education Service Center in Corpus Christi, Texas has developed an interactive videotaped course for psychology. The course is self-instructional and is made up of 79 individual 30 minute videotapes. An Apple computer controls the operation of the

video cassette recorder when a student studies a lesson. Video segments are automatically located and played under command of the computer program. Lessons are designed so that a student need only know how to insert a cassette in the VCR and a diskette into the computer, then turn on the machines and the lesson begins. Branching of the program is based on student responses (Elam, 1985).

The use of interactive videodiscs, which allow for immediate and random access of desired information, remain cost prohibitive for most educational institutions. Limited availability of educational courseware is another problem. Technology prices are coming down, however, and may soon be to a point of real affordability for small schools. As prices drop, disc replication costs will also become more attractive. The future use of interactive videodiscs holds promise for rural schools.

Satellite Systems

The Texas Interactive Instructional Network (TI-IN) delivery system offers satellite transmitted academic courses from accredited agencies and institutions to high schools across the state of Texas. Actual programming of high school courses began in September of 1985. TI-IN uses state-of-the-art satellite technology to provide one-way video and two-way audio hook-up to subscribing schools. Live broadcasts are received at school buildings and/or education service centers via down linked dishes. Audio response by participants is over regular telephone lines. All high school courses offered through this system are in harmony with Texas Education Agency Essential Elements. Costs to establish a school building as a receiving site vary depending on the location of the school, number of rooms to be equipped with monitors, and the ADA reported by the school (Nix, 1984).

During the Spring semester of the 1984-85 school year, Beaver High School, located in the panhandle of Oklahoma, began offering German language over satellite through an arrangement with the College of Arts and Sciences at Oklahoma State University. Less than one year later, over 50 other high schools had joined the network which now serves more than 800 students. Participating schools are required to purchase a down link dish and other hardware for an initial equipment outlay of $5000 to $10,000, depending on the type of hardware acquired. Oklahoma State charges a fee of $1500 to each school. The fee is for computer software, audio tapes, and two 45 minute satellite broadcasts per week. Additional course offerings are expected over the system in the near future.

Computer Networks

Computer networking systems are mushrooming across the country. Although present expenses are high, innovations in the field promise to drop costs. The future should see educational networks becoming more affordable to rural schools.

Dixie College in Southern Utah has linked with three small high schools to establish a live inter-microcomputer system called the Telelearning Network. Initial instruction began in 1984 with a

trigonometry class taught by a professor at the College some 180 miles distant from participating schools. As more courseware is developed, the system is expected to expand to many other schools in the state (Jolley, 1984).

The Kentucky Schools Technology Project is an interactive computer network linked by an existing statewide microwave system. The network has been on-line since September 1984. Present software includes math and reading. With dedicated lines, the system could be replicated elsewhere. Some 1300 students are studying on the network (Wall, 1984).

The PLATO system in Nebraska offers math, science, and computer programming courses to 14 schools. PLATO is interactive and capable of serving large numbers of learners, either simultaneously or individually. With the advent of Apple, IBM, and other lower cost microcomputers, there is hope that PLATO software will be developed that is compatible with other microcomputers (Wall, 1984).

SECTION TWO -- ADVANTAGES AND DISADVANTAGES OF CURRICULUM EXPANSION STRATEGIES

Section One of this paper outlined some alternative approaches to the delivery of instruction in small high schools. The range of models presented reflect some approaches which are new and innovative as well as some which have been available for many years. The models presented are not inclusive. Those reported are only representative of many others across the country.

Section Two looks at the potential advantages and disadvantages of 24 options intended as strategies to either maintain comprehensive high school programs or expand existing course offerings. This material is presented in a series of tables. The first table refers to in-school options for offering a broad curriculum. Table 2 focuses on options available through community and post-secondary education resources. Table 3 considers strategies arising from cooperative sharing ventures, and Table 4 lists options resulting from technological advances.

Conclusions

Small high schools share many of the problems that beset education in general; inadequate finances, shortage of teachers, changing social values, pressure from special interest groups, etc. The fact is, however, that many of these problems are magnified in the small secondary school. This is particularly true in terms of providing the many and varied educational needs as determined by students, parents, community, and the state. Low student enrollments increase per pupil cost of professional staff, facilities and programs. Small numbers of students limit critically the number of classes that can be provided. In turn, small numbers of certified staff limit the number of classes in which the teacher can supply subject matter expertise.

Despite these concerns, recent research suggests that smaller schools -- provided they offer diversity in their curricula -- may be one of the most important strategies for educational improvement in the 1980's and beyond (Dollar, 1983). Due to their smaller size, such schools offer the best opportunity to create a school climate conducive to teaching and learning. The challenge of maintaining the benefits of smallness while at the same time providing diversity and breadth in program offering is one that needs more attention.

The implementation of technology as an alternative delivery system to expand curricular offerings in small high schools has great potential. If a small high school does not have sufficient enrollment or resources to offer a particular course(s), educational television holds promise as a medium to deliver the course to the school. A television class can be transmitted live by cable, microwave, satellite, or over ordinary telephone lines via slow scan TV or an electronic blackboard. One benefit of educational TV is that it perpetuates the existing -- and familiar -- model of teacher-present/student-recite pattern of traditional classroom instruction. It also allows for interaction when teacher and students are connected for two-way audio communication.

Other advancing technologies also hold promise to small schools. Microcomputers linked either with videotapes or videodiscs present a model which allows students to study at they own pace without the time constraints associated with broadcast television. Furthermore, software programs permit replication of curriculum content that is interactive and can be cost effective when only a very few students show interest in a particular course.

Organizational strategies might also be considered as a means to provide greater program breadth. The use of learning centers is one way to significantly expand program offerings without an increase in size of the teaching staff. Other more traditional approaches such as cooperative sharing of program materials with a neighboring school or education service center, traveling teachers between schools, and the use of supervised correspondence study might also be considered.

Whether efforts are made through the application of new technologies or innovative practices and strategies, the challenge facing administrators, teachers, parents, and community members in rural areas is to investigate, then apply alternative approaches which will enhance learning opportunities for students and assure delivery of a broad array of meaningful course offerings. Finally, because of the diverse nature of rural America, no one model or practice "fits all sizes." Application or modification of existing practices must be done from the perspective of what is the best approach to meet local needs.

TABLE 1

IN-SCHOOL OPTIONS FOR MAINTAINING A BROAD CURRICULUM

Option	Advantages	Disadvantages
Expanded Grade Range The range of grades taught at one facility is broadened as in expanding a grade 9-12 high school to a grade 7-12 junior-senior high school	Facilitates cross-grade enrollments in some subjects Provides an opportunity for increased utilization of staff Efficiencies are achieved by sharing facilities, administrators, and support personnel	Daily interaction of students at different phases of social development
Related Courses Combined Combine the teaching of related courses in the same classroom. Eg., teaching Spanish II and III in the same class	Courses are held which otherwise would have been cancelled	Less relevant or appropriate instructional time is provided for each student
Alternate-Year Offerings A particular course(s) are offered every other year	Demand for a course may "backlog" during the off-cycle year, making enrollment demand higher	An alternate year system is not feasible for most core and sequential courses.
Multiple Certification of Teachers Recruit or retrain staff to to obtain teachers with strengths in two or more disciplines	The possibility that a course will not be offered due to lack of trained personnel is reduced	Technical certification which has not been practiced for many years may be instructionally less less effective
Interdisciplinary Courses An interdisciplinary course combines the content and perspective of two or more disciplinary areas into a single course offering	Courses which cannot be run separately (eg. Art History) may be delivered to students as part of a combined course (eg. History and Culture)	Breadth of coverage of a course is likely to be reduced

TABLE 1 (continued)

Option	Advantages	Disadvantages
Increased Student Course Load By increasing credit requirements or increasing the number of instructional periods per day, students are encouraged to take a larger number of total courses	If more courses are taken, many students will have available slots to take elective courses	If credit requirements are highly restrictive, options for students may not increase A large number of courses can result in reduced attention to each course by students
Innovative Modes of Instructional Delivery Allow a combination of large group lectures, independent team projects or other non-traditional formats	Teaching time may be used more effectively when options for delivery of education are flexible	Not identified
Independent Study Students study a course independently under the guidance of a staff member	Students are able to take a course which is either not offered, or conflicts with another course	Lacks the advantages of direct teacher instruction and classroom interaction
Flexible Policy on Minimum Enrollment Using a locally defined process, allow certain courses to be taught with very low enrollments	Courses considered important for a high quality educational program are provided	The per-pupil cost of instruction may increase

Adapted from Maintaining Comprehensive High School Programs in a Time of Declining Enrollments. Providence, Rhode Island: Rhode Island State Department of Education, 1985.

TABLE 2

OPTIONS FOR MAINTAINING A BROAD CURRICULUM USING COMMUNITY RESOURCES AND POSTSECONDARY EDUCATION

Option	Advantages	Disadvantages
Use of Community Resources Expand the school into the community or bring teachers from the community into the school	Duplication of facilities and equipment is avoided Specialized teachers may be used on a part-time basis to enhance the educational program Student involvment can be more "real world" oriented	Certification requirements may reduce feasibility of this option
Correspondence Courses Packaged courses mailed by other institutions are taken by individual students	Range of courses available is enormously broadened	Quality, cost, and supervision of such courses can be drawbacks
Expanded School Mission School resources are used to teach segments of the population not traditionally served by the school. Eg., drop-outs, business employees, retired, persons, etc.	By adding clients, the school can maintain a larger curriculum and employ a larger and more varied staff	Acquiring funding for non-traditional groups may be difficult
Concurrent High School and College Enrollment With this option, students earn "dual credit"	Removes the course enrollment barrier that high school programs face The promise of college credit may increase popularity of a course and assure its being offered	Students may need to pay their own tuition and provide their transportation to the college

TABLE 2 (continued)

Option	Advantages	Disadvantages
Early College Enrollment Students leave high school a semester or year early to attend a postsecondary program. Typically, the student will have achieved the required number of courses to graduate except for English IV which is waived as long as an equivalent English course is taken in college	High school students are given the opportunity to attend college or trade school	Not identified

Adapted from Maintaining Comprehensive High School Programs in a Time of Declining Enrollments. Providence, Rhode Island: Rhode Island State Department of Education, 1985.

TABLE 3

INTER-DISTRICT COOPERATIVES AND REORGANIZATION STRATEGIES FOR MAINTAINING A BROAD CURRICULUM

Options	Advantages	Disadvantages
Cross Registration Allow students to enroll in courses in neighboring schools	Students have a broader range of courses available to them Individual schools may develope programming depth which is shared	Transportation of students making individual selections
Joint Program Offering Two or more schools act together to offer a course or program. One district may be the "district of record" or a joint collaborative may be established with its own administrative procedures	Courses with too low demand to be offered individually may be feasible if offered jointly by two or more districts	Transportation of students
Specialized Regional Schools or Regional Education Agencies Special programs are offered at regional schools. Such schools/agencies are able to coordinate programs for component districts	Regional centers/schools have a greater population base and can provide for extensive services and program offerings	Not identified
Itinerant Teachers In contrast to transporting students, teachers travel to two or more schools to teach	A specialized teacher (eg. Latin or Special Education) may be better utilized when shared by several schools	Because districts have different contracts and pay structures, forging mutual agreements may be an administrative burden

TABLE 3 (continued)

Option	Advantages	Disadvantages
Tuition or "Voucher" Arrangements Districts too small to maintain comprehensive programs may "tuition" their students to neighboring schools or provide parents with vouchers to allow their children to attend schools of their choice	Students generally receive more educational opportunities	Community control of education is lessoned Students may spend more time traveling than learning
Cooperation in Provision of Support Functions Schools cooperate or regionalize in the area of support functions such as administrative computer services, purchasing, or transportation of students	Cost effeciences can preserve monies for support of more extensive curricula	Not identified
Consolidation/Regionalization Districts/schools merge to become larger administrative units, reducing the number of individual high school programs	Remaining high schools have more comprehensive programs	Reduction in local control of education

Adapted from Maintaining Comprehensive High School Programs in a Time of Declining Enrollment. Providence, Rhode Island: Rhode Island State Department of Education, 1985.

TABLE 4

APPLICATION OF NEW TECHNOLOGIES FOR MAINTAINING A BROAD CURRICULUM

Option	Advantages	Disadvantages
Taped or "Over-the-Air" Instructional Television Prepared programs are transmitted for TV reception or videotaped programs are rented, purchased, or shared	Curriculum opportunities are broadened	Can be cost prohibitive Production requires technical expertise
Computer-Assisted Instruction Student instruction is directed by computer programs with students at individual work stations	Curriculum opportunities are broadened	Quality and effectiveness cannot be assumed Teacher and classroom interaction reduced
Interactive Telecommunication Technologies, such as cable, satellite, and slow scan, allow interaction between instructor and students who may be at several locations. Interaction may just have an audio component, but ideally, it would have one-way or two-way video as well	Curriculum opportunities are broadened	These technologies still have significant financial costs

Adapted from Maintaining Comprehensive High School Programs in a Time of Declining Enrollments Providence, Rhode Island: Rhode Island State Department of Education, 1985.

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APPENDIX

APPENDIX

Listed below are names and addresses of individuals or organizations to contact to obtain more information about some of the programs mentioned in this report.

Using Community Resources

Superintendent
Arthur County High School
Arthur, Nebraska 69121

Joseph May
Dean of Students
Navarro College
Corsicana, Texas 75110
(214) 874-6501

John Grant
Superintendent
Roscoe Central School
Roscoe, New York 12776

Vicki Hobbs
Project Director
Rural Student Employability Program
Salem-Steelville-Potosi Consortium
Columbia, Missouri

Superintendent
Sacketts Harbor Central School District
Sacketts Harbor, New York 13685

Cooperative Sharing

James Jess
Superintendent
CAL Community Schools
Latimer, Iowa 50452

Superintendent
LuVerne Community School
Box 59
LuVerne, Iowa 50560

Jerry White, Chief Program
Administration and Evaluation
Division of Special Education
200 W. Baltimore Street
Baltimore, Maryland 21201
(301) 659-2479

Superintendent
Mott School District #6
Mott, North Dakota 58646

Cooperative Sharing (continued)

Jack Rawlison
Vocational Director
Southeast Illinois Vocational System
Saline County Courthouse
Harrisburg, Illinois 62946
(618) 252-6655

James Redfield
Superintendent
Tyler Public Schools #409
Box 659, 100 Strong Street
Tyler, Minnesota 56178

Correspondence Study

Director, Department of Independent Study
Division of Continuing Education
University of Arkansas
346 West Avenue
Fayetteville, Arkansas 72701
(501) 575-3647

Correspondence Study Department
Louisiana State University
Baton Rouge, Louisana 70803
(5040 388-3171

Division of Continuing Education
Mississippi State University
Drawer 5247
Mississippi State, Mississippi 39762
(601) 325-4030

Director, Independent and Correspondence Study
Oklahoma State University
018 Classroom Building
Stillwater, Oklahoma 74074
(405) 624-6390

Division of Continuing Education
Texas Tech University
Box 4110
Lubbock, Texas 79409
(806) 742-2352

Extension and Instructional Materials Center
University of Texas
Austin, Texas 78712
(512) 471-5616

Special Scheduling

Superintendent
Daniels County School Districts #3 & 7
4001 1st Avenue
Flaxville, Montana 59222

High School Principal
Spur Independent School District
Box 550
Spur, Texas 79370

Charles Sederberg
Professor of Educational Administration
245 Peik Hall
University of Minnesota
Minneapolis, Minnesota 55455
(612) 373 2251

Audio Teleconferencing

Maureen Jewell
M.E.T.S. Director
Eastern Montana College
Billings, Montana 59101
(406) 657-2254

Monty McMahon
Division of Continuing Education
33rd Holdrege Street
University of Nebraska-Lincoln
Lincoln, Nebraska 68583
(402) 472-1962

Kenyon Griffin
Director of Extended Studies
University of Wyoming
Box 3302, University Station
Laramie, Wyoming 82071
(307) 766-3152

Computer Networking

David Brooks
PLATO System
118 Henzlik Hall
University of Nebraska-Lincoln
Lincoln, Nebraska 68508
(402) 472-2018

Henry Jolley
Tele-Learning Network
Box 398
Panquitch, Utah 84759
(801) 676-8821

Computer Networking (continued)

Charles M. Anderson
Western Kentucky University
Bowling Green, Kentucky 42101
(502) 745-2153

Interactive Television

Slow Scan TV
Colorado Video, Inc.
Box 928
Boulder, Colorado 80306
(303) 444-3972

Russ Martenson
Superintendent
Eagle Bend High School
Box 299
Eagle Bend, Minnesota 56446
(218) 738-6442

Fredrick Todd, Principal
South OaK Cliff High School
1601 S. Marsalis Avenue
Dallas, Texas 75216
(214) 371-4391

Weldon Sleight
Slow Scan TV Program
Extension and Life Span Learning
Utah State University
Logan, Utah 84321

Interactive Videotape

Dannah Procter
Education Service Center, Region II
209 North Water
Corpus Christi, Texas 78401
(512) 883-9288

Satellite Broadcasts

Smith Holt
College of Arts and Sciences
Oklahoma State University
Stillwater, Oklahoma 74078
(405) 624-5663

Pat Tinsley
President, TI-IN
533 Hollister, Suite 320
Houston, Texas 77040
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Videotaping

Marcia Bankirer
Division of Continuing Education
Colorado State University
Fort Collins, Colorado 80523
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John Strain
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University of Missouri-Columbia
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